



Hydatid Disease

❖ Introduction :-

- Hydatid disease is a parasitic infestation by a tapeworm of the genus *Echinococcus*.
- Dogs are the definitive hosts of the tiny tapeworm *E. granulosus*.
- Humans act as accidental intermediate host.
- Echinococcosis can involve any organs, but the liver is the most common organ involved, followed by the lungs.
- The disease is common in the Middle East, North and East Africa, Australia and Argentina.

❖ Pathology and Pathogenesis :-

- ✓ The larval stage, a hydatid cyst, normally occurs in sheep, cattle, camels and other animals that are infected from contaminated pastures or water.
- ✓ By handling a dog or drinking contaminated water, humans may ingest eggs .
- ✓ The embryo is liberated from the ovum in the small intestine and invades the blood stream, spreading to the liver.
- ✓ The resultant cyst grows very slowly, sometimes intermittently.

❖ Pathology and Pathogenesis :-

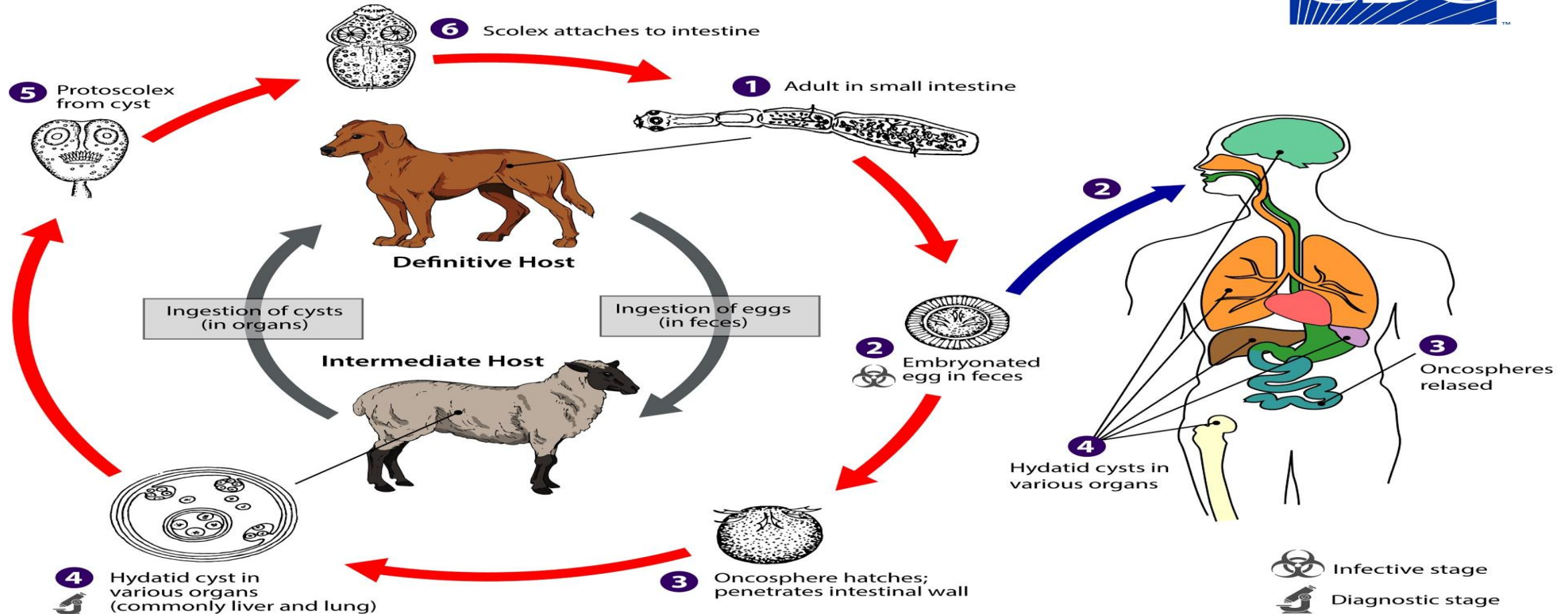
- ✓ It is composed of an enveloping fibrous peri cyst, laminated hyaline membrane (ectocyst) and inner germinal layers (end cyst) that give rise to daughter cysts, or a germinating cystic brood capsule in which larvae (protoscolices) develop.
- ✓ Over time, some cysts calcify and become non-viable.
- ✓ *E. multilocularis*, which has a cycle between foxes and voles, causes a similar but more severe infection, 'alveolar hydatid disease', which invades the liver like cancer.

❖ Pathology and Pathogenesis :-

Lifecycle of *E. granulosus*.

DPDx

Cystic Echinococcosis *Echinococcus granulosus sensu lato*



❖ Clinical features :-

- ✓ Many hydatid cysts remain asymptomatic, is typically acquired in childhood and, after growing for years.
- ✓ The degree of symptoms is depend on :-
 - The parasite load of the cysts.
 - The site of the cysts.
 - The size of the cysts.
- ✓ The symptoms can produced by a pressure effect or cyst complications.
- ✓ Most symptomatic cysts are larger than 5 cm in diameter.
- ✓ Most organ affected the liver, and lungs.
- ✓ Less organ affected the CNS, bone, and silent in breast, kidney, adrenals, and heart.

❖ Clinical features :-

- ✓ Pressure effects are initially may include :-
 - Nonspecific pain.
 - Cough.
 - low grade fever,
 - The sensation of abdominal fullness.
- ✓ As mass grows, the symptoms become more specific ; -
 - In the liver, the pressure effect can produce symptoms of :-
 - Obstructive jaundice.
 - Abdominal pain.
 - In the lungs, produce :-
 - Chronic cough.
 - Dyspnea.
 - Pleuritic chest pain.
 - Hemoptysis.

❖ Clinical features :-

- ✓ Symptoms of cysts complications may occur as a result of :-
 - Infection of the cyst.
 - Leakage of the cyst.
- ✓ **Physical examination :-**
 - Findings in patients with echinococcosis are nonspecific.
- ✓ Finding are related to :-
 - The effect of the cyst on the anatomy or function of the affected organ(s).
 - An acute allergic reaction.

❖ Investigations :-

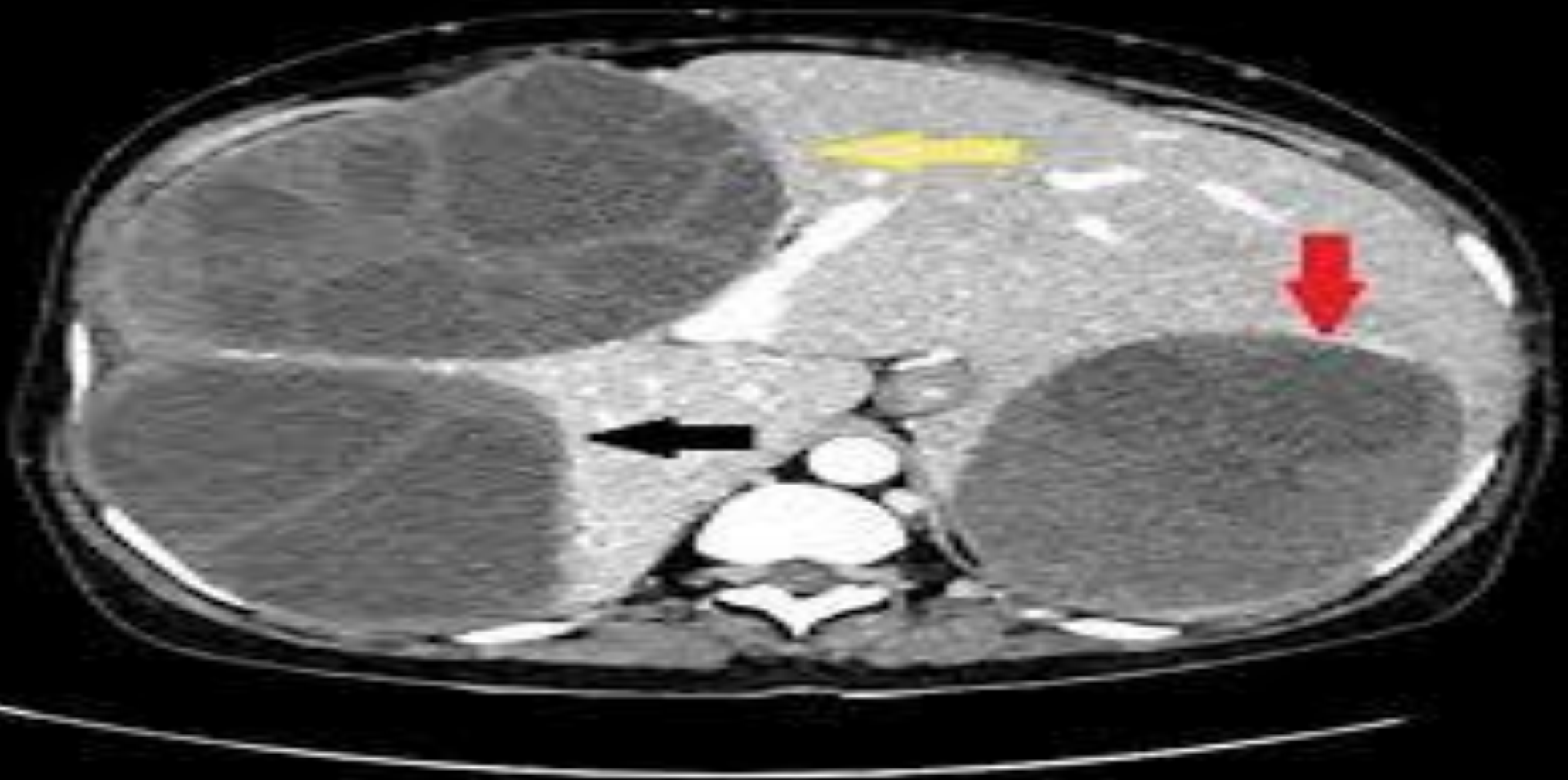
The diagnosis depends on :-

- ✓ The clinical data.
- ✓ Radiological (CT, MRI)and ultrasound findings in a patient that has close contact with dogs in an endemic area.
- A vascular fluid filled cysts and/or calcification.
- ✓ Serology :- Complement fixation and ELISA are positive for E. antigen in 70–90% of patients.

❖ Investigations :-



❖ Investigations :-



❖ **Management :-**

- Treatment depend on cyst type, size, location, and complications
- Hydrated cysts should be excised surgically wherever possible.
- **Chemotherapy is indicated in :-**
 - Patients with primary liver or lung cysts that are inoperable.
 - Patients with cysts in 2 or more organs.
- ❑ Albendazole (400 mg twice daily for 3 months) should also be used and is often combined withPAIR (percutaneous puncture, aspiration, injection of scoliocidal agent and re-aspiration).
- ❑ Praziquantel (20 mg/kg twice daily for 14 days) also kills protoscolices perioperatively.

❖ Prevention :-

- Prevention is difficult when there is a close association with dogs.
- The reduces the prevalence of disease by :-
 - Personal hygiene.
 - Satisfactory disposal of carcasses.
 - Meat inspection.
 - Deworming of dogs.

❖ Prognosis :-

- **Mainly** depends on the type of infestation(cystic or alveolar echinococcosis).
- **In CE :-**
 - ✓ The prognosis is generally good.
 - ✓ Complete cure is possible with total surgical excision without spillage.
- **In AE :-**
 - ✓ The prognosis is much worse.
 - ✓ Cure is only possible with early detection and complete surgical excision.
 - ✓ In latter is not possible, the addition of long-term chemotherapy has decreased the mortality rates from 94% to 10 %.



Thank you